MATH 30/GRACEY
CHAPTER 1 PRACTICE

Name_____

Perform the indicated operation or operations.

1) $\left(-\frac{1}{2}\right) \div (-5)$ 1) _____

2) $\left(1\frac{1}{3}\right)\left(-5\frac{1}{2}\right)$ 2) _____

3) $\frac{8(-2) - 2(2)}{-2(8 - 3)}$ 3) _____

4) $9.3 - (-6.6)$ 4) _____

5) $(-6)(-4) \div (8 - 12)$ 5) _____

Use the order of operations to simplify the expression.

6) $\dfrac{7 + (-5)^2 + 6 \cdot 2^2}{6^2 \cdot (4 - 2)}$ 6) _____

7) $12 \div 4(3) - 5$ 7) _____

8) $[20 - (4 + 6) \div 2] - [1 + 15 \div 3]$ 8) _____

9) $\dfrac{16(-1) - (-8)(-5)}{2[-8 \div (-2 - 2)]}$ 9) _____

10) $75 - 3 \cdot 12 + 342 \div (-18)$ 10) _____

11) $8^2 - 2(6) + 20 \div 5$ 11) _____

12) $23 - [\,9 - (\,5 - 12)] + (\,3 - 5\,)^3$ 12) _____

13) $60 \div 15 \cdot (-5)$ 13) _____

14) $10^2 - 4 \cdot 5$ 14) _____

15) $|7 - 18| \cdot -12 \div (-4)$ 15) _____

16) $(4 + 18) \cdot (26 - 16)$ 16) _____

17) $\dfrac{5 \cdot (8 + 5) + 5 \cdot 3}{5 \cdot (8 - 1)}$ 17) _____

Translate from English to an algebraic expression or equation, whichever is appropriate. Let the variable x represent the number.

18) $\frac{1}{3}$ of a number, decreased by 5, is 39. 18) _____

19) Eight subtracted from the product of 5 and 2 less than a number 19) _____

Provide an appropriate response.

20) List all the rational numbers in this set. 20) _____

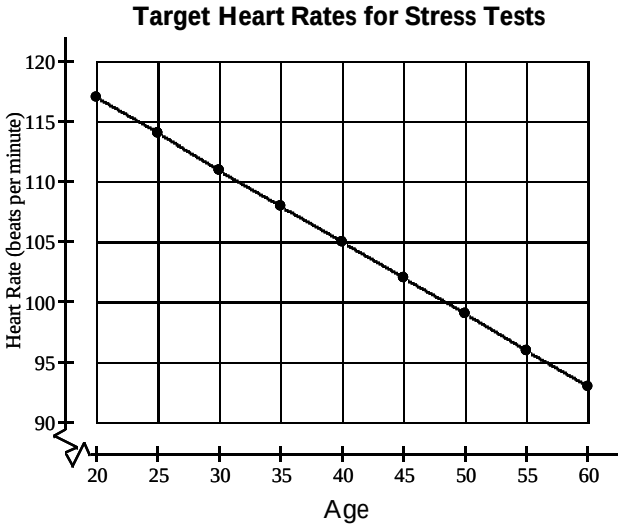
$\left\{5, \sqrt{8}, -8, 0, \pi, \sqrt{9}, \frac{22}{7}, 0.94\right\}$

21) Find the absolute value: $|-15.4|$. 21) _____

22) Use the distributive property to rewrite without parentheses: $9(7x - 1 + 4y)$ 22) _____

Solve.

23) The line graph shows the target heart rate, in beats per minute, of people of various ages when performing an exercise stress test. 23) _____



Use the line graph to estimate the target heart rate for a 35-year-old taking the test.

24) The formula $H = \frac{3}{5}(215 - a)$ gives the target heart rate, H, in beats per minute, on a stress test for a person of age a. Use this formula to find the target heart rate for a 60-year-old. 24) _____

25) What is the difference in elevation between a plane flying 15,300 feet above sea level and a submarine traveling 780 feet below sea level? 25) _____

Simplify the algebraic expression.

26) $2 - 5[5 - (5x + 2)]$ 26) _____

27) $10(5x - 9y) - (2x - 4y)$ 27) _____

Evaluate the algebraic expression for the given value of the variable.

28) $x^2 - 4x;\ x = -10$ 28) _____

29) $5(x - 9);\ x = 5$ 29) _____

Determine whether the given number is a solution of the equation.

30) $4(x + 5) - 10 = 5x;\ 10$ 30) _____

31) $\frac{1}{2}(x + 4) = \frac{1}{8}x + \frac{3}{2};\ -10$ 31) _____

1) $\frac{1}{10}$
2) $-\frac{22}{3}$
3) 2
4) 15.9
5) -6
6) $\frac{7}{9}$
7) 4
8) 9
9) - 14
10) 20
11) 56
12) -1
13) -20
14) 80
15) 33
16) 220
17) $\frac{16}{7}$
18) $\frac{1}{3}x - 5 = 39$
19) 5(x - 2) - 8
20) $5, -8, 0, \sqrt{9}, \frac{22}{7}, 0.94$
21) 15.4
22) 63x - 9 + 36y
23) 108 beats per minute
24) 93 beats per minute
25) 16,080 feet
26) 25x - 13
27) 48x - 86y
28) 140
29) -20
30) solution
31) not a solution